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Set      Items    Descript
S1        9986    ACTIVITY(W)BASED(W)COST? OR ACTIVITY(W)BASED(W)MANAGEMENT
S2      7568597   LOAN? OR LEAS? OR COMMON(W)EQUIT? OR PREFERRED(W)EQUIT?
S3      4140834   QUALIFIED(W)LEAD OR PRE-PROPOSAL(W)ISSUE OR PROPOSAL(W)ISS-
                  UE OR DEAL(W)AWARDED OR PRESENTED(3W)APPROVAL(W)COMMITTEE OR -
                  APPROVED OR CLOSED
S4        4542    REPORT? AND OPERATING(W)COST?(3W)PRODUCT(3W)TOTAL(W)COST? -
                  OR CLOSE(W)DEAL(W)COST OR DEAD(W)DEAL(W)COST OR HIT(W)RATE OR
                  CLOSE(W)DEAL(W)UNIT(W)COST?
S5         115    REPORT? AND TOTAL(W)COST(3W)CLOSE(W)DEAL OR OPERATING(W)CO-
                  ST(3W)PROCESS
S6           0    S1 AND S2 AND S3 AND S4
S7         264    S1 AND S2 AND S3
S8         208    RD (unique items)
S9          43    8 AND S5
S10          0    S8 AND S5
S11          0    S8 AND S4
S12        189    S8 NOT PD>001206
S13        157    S12 AND REPORT?
S14      192575   S13 AND BANK OR FINANCIAL(W)INSTITUTION OR CREDIT(W)UNION
S15         50    S13 AND (BANK OR FINANCIAL(W)INSTITUTION OR CREDIT(W)UNION)
S16          5    S15 NOT LEAS?
?t s16/full/3
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16/9/3   (Item 3 from file: 15)

Management accounting information systems in UK building societies
Drury, Colin

ABSTRACT: A significant feature of the UK economy over the past decade has
been the growth of the financial services sector. Little has been written
on the nature and content of accounting information systems in the
financial services sector. To remedy this deficiency, a postal survey and
interviews were undertaken to provide information on the nature and scope
of management accounting information systems within UK building societies.
Survey results and interview findings relative to the role of branch and
product profitabilty analysis for making strategic decisions, the
evaluation of branch managerial performance, transfer pricing, budgeting
and the monitoring of competitor performance are discussed.

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A significant feature of the UK economy over the past decade has been the
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This paper **reports** on the survey and interview findings relating to the
role of branch and product profitability analysis for making strategic
decisions, the evaluation of branch managerial performance, transfer
pricing, budgeting and the monitoring of competitor performance.

During the 1980s many service organisations encountered major changes in
their competitive environment. Before the 1980s, organisations such as
those operating in the airlines, utilities and financial service industries
were either government-owned monopolies or operated in a highly regulated,
protected and non-competitive environment. These organisations were not
subject to any great pressure to improve the quality and efficiency of
their operations or to improve profitability by eliminating services that
were making losses. Furthermore, potentially more efficient competitors

were often prevented from entering the markets in which regulated companies operated. Prices were set to cover operating costs and provide a predetermined return on capital. Hence cost increases could often be absorbed by increasing the prices of the services. Little attention was therefore given to developing management accounting information systems that measured the costs and profitability of individual services.

Privatisation of government-controlled companies and deregulation in the 1980s completely changed the competitive environment for many service organisations. Pricing and competitive restrictions have been virtually eliminated. Deregulation, intensive competition and an expanding product range have created the need for service organisations to focus on cost management and develop management accounting information systems that enable them to compete more effectively. In particular, information is required to enable them to understand their cost base, pinpoint loss-making activities and determine the sources of profitability for their products, customers and markets.

A significant feature of the UK economy over the past decade has been the growth of the financial services sector. Apart from studies by Fitzgerald et al. [1991] and Berry et al. [1991], little has been written on the nature and content of management accounting in the financial services sector. These developments provided the motivation for the author to undertake a survey to gather information relating to the nature and scope of management accounting within UK building societies. In particular, the survey sought to ascertain the extent to which building societies have invested in developing accounting information systems in response to the changing competitive environment. During the 1980s building societies encountered major changes in their competitive environments. Hardwick [1996] has pointed out that the elimination of the interest rate cartel in 1982 generated more competition among the building societies themselves. Changes in the banking regulations in the early 1980s intensified the competition between building societies and banks in the market for mortgage **loans** and investments, while at the same time there were new entrants into the market in the form of mortgage finance corporations. Further deregulation of the financial services sector in the late 1980s and the Building Societies Act [1986] extended the sources of funds available to societies and opened up significant opportunities for product diversification. In order to compete more effectively societies have developed new types of deposits and mortgages and expanded their product range by providing a co-ordinated range of financial services to meet their customer requirements.

RESEARCH METHOD

A postal questionnaire and interviews were used to gather the empirical data. Questionnaires were mailed to the financial managers of the 36 largest UK building societies (each with total assets in excess of 300m). The aim was to focus on those societies that had a recognised management accounting function. Preliminary investigations suggested that, apart from budgeting, the smaller societies were unlikely to have developed management accounting information systems. Furthermore, the 36 largest societies accounted for over 90 per cent of the total assets of all UK societies. The sample frame was selected from key statistics of 99 member societies. Usable replies were received from 28 societies, a response rate of 78 per cent. It is estimated that the responding societies account for approximately 90 per cent of the total assets of all UK societies. In order to obtain an additional insight of management accounting practices and provide an opportunity for probing the reasons for particular responses, 20 post-questionnaire interviews were also undertaken with the questionnaire respondents. An analysis of the replies and the sample frame by total assets is presented in Table 1.

GROWTH OF MANAGEMENT ACCOUNTING INFORMATION SYSTEMS

The respondents were asked to indicate whether their society had a recognised management accounting function. Most of the respondents (26 out of 28) stated that their societies had such a function. Typical management

accounting activities ● the larger societies included ●asuring product and branch profitability, budgeting and variance **reporting** , evaluating new business initiatives, special studies relating to branch closures and long-term financial planning using financial models to generate predictions for a number of different scenarios. The management accountants in the smaller societies were mainly engaged in ad hoc profitability analysis, budgeting and providing performance **reports** for senior management. Most of the societies indicated that management accounting information systems had only been developed within the last five years. In the larger societies considerable resources had been allocated to expanding the management accounting function with four out of the eight largest societies **reporting** that more than 20 staff were employed. Staff had been recruited from a variety of backgrounds; in particular the manufacturing and retail sector.

PRODUCT RANGE

(Table Omitted)

Captioned as: TABLE I

Details of the principal activities undertaken are shown in Table 2. Most of the societies have expanded their product range and developed new types of mortgages and deposits. The majority (18 out of 28) marketed five or more different types of service. Typical activities included mortgage and personal lending, deposit accounts, credit cards, estate agencies, insurance, stockbroking, independent financial advice and foreign currency. Most societies marketed several different products within a product line/range. (See Table 3). For example, 9 and 8 societies respectively, **reported** that they marketed over 10 individual products within the mortgage lending and deposit savings product lines.

ALTERNATIVE APPROACHES TO PROFITABILITY ANALYSIS

Profitability analysis was considered to be of vital importance to aid strategic decision-making. The larger societies had invested heavily in new accounting systems that more accurately traced resources consumed by cost objects (e.g. products, branches and customers). For strategic decisions, such as introduction and abandonment decisions, profitability analysis should adopt an incremental/avoidable cost approach and **report** the additional costs and the additional revenues that arise as a result of maintaining a particular product, branch or customer. In other words, the aim is to assign to cost objects all those costs that could be avoided if the cost object were discontinued.

(Table Omitted)
Captioned as: TABLE 2

TABLE 3

The incremental/avoidable cost method is more appropriate for undertaking special studies when specific products or branches have been identified that require branch/product introduction or discontinuation decisions. Where an organisation has many products or branches it is not feasible for periodic profit **reporting** to examine each product/branch to ascertain those costs that would be avoided if they were discontinued. Instead of seeking to **report** future incremental/avoidable costs the literature [e.g. Drury, 1996] advocates that organisations should periodically analyse profits on a historical basis. This periodic analysis provides a strategic review of the costs and profitability of an organisation's activities but it should not be used directly for decision-making. Historical profitability analysis provides attention-directing information by pinpointing those products or branches where losses are **reported** thus signalling the need for special studies to ascertain if their incremental revenue and spending consequences justify discontinuation.

Historical profitability analysis raises the question of what costs should be assigned to cost objects. One approach is to assign only those costs that can be directly attributed to specific cost objects. Thus, for branch

profitability analysis ●rect branch costs such as staf●osts associated with staff employed at the branch and branch property rentals would be assigned to specific branches. However, indirect costs such as branch support costs are not traced to branches even though some of these costs may be avoidable with branch closures. Assigning only direct costs to cost objects may thus provide poor estimates of future incremental/avoidable costs arising from introduction/discontinuation decisions. This approach is appropriate where direct costs represent a high proportion of total costs. However, if a significant proportion of costs cannot be directly assigned to cost objects the profitability analysis will only **report** contributions' towards indirect costs and only a small proportion of total costs will be assigned to cost objects. It is possible that each activity may generate a positive contribution, but this may be insufficient to cover all indirect costs and an overall loss would still ensue.

A second approach is to assign some, or all of the indirect costs to cost objects. There is, however, one category of indirect expenses, known as facility-sustaining expenses, which should not be allocated to cost objects. Facility-sustaining expenses represent those expenses associated with activities that are necessary to provide the managerial infrastructure and to support the upkeep of the organisation. Examples include insurances, property taxes, lighting and heating of central headquarters and depreciation/rentals of computers. These costs are common and joint to all activities and are likely to be unavoidable and therefore irrelevant for virtually all decisions. Therefore they should not be assigned to cost objects. Instead they should be regarded as costs that are common to all cost objects and deducted in a lump sum from the total of the profit contribution margins from all products or branches serviced by the organisation. A study, however, by Drury et al. [1993] **reported** that many manufacturing organisations allocated facility-sustaining costs when making productrelated decisions.

Cost systems that allocate indirect costs to cost objects vary in accuracy. Prior to the 1990s virtually all manufacturing organisations used traditional costing systems that relied on the extensive use of arbitrary cost allocations to trace all or most costs to cost objects. Traditional costing systems do not accurately measure resources consumed by cost objects. In the late 1980s Cooper and Kaplan [1988] developed a more refined approach, known as **activity – based costing** (ABC), for assigning indirect costs to cost objects. A study by Innes and Mitchell [1995] **reported** that 20 per cent of the responding UK firms had adopted ABC and a further 27 per cent were considering its adoption.
ABC seeks to measure accurately the resources consumed by cost objects whereas traditional systems merely allocate costs. For example, a traditional system might allocate deposit transaction processing costs to the different types of savings accounts on the basis of number of customers for each type of account. This approach will lead to distorted cost information if deposit processing costs are caused by the number of transactions processed. Allocating costs according to the number of customers will lead to low-value deposit accounts that involve numerous 'over-the-counter' transactions being undercosted whereas high value long-term savings accounts requiring very few transactions will be overcosted. In contrast an ABC system would accumulate all costs relating to deposit-processing activities, ascertain what causes these costs to be incurred in the long-term (such as the number of transactions processed) and assign the costs to different types of savings accounts on the basis of their demand for the activity (measured on the basis of the number of transactions required). Hence costs generated from ABC systems are likely to lead to a more accurate profitability analysis.

PRODUCT PROFITABILITY ANALYSIS

A summary of the survey findings relating to branch and product profitability analysis is shown in Table 4. The survey revealed that seven societies periodically analysed profits by product lines and also by individual products within the product line. Six of the societies analysed profits at monthly or quarterly intervals and the seventh used a six-monthly **reporting** period. A further three societies were in the

process of implementing periodic product profitability analysis. All ten societies were large and ranked within the top 13 largest societies.

Because of the large number of individual products, the respondents drew attention to the fact that it was not feasible to **report** , routinely, profits at the individual product level. Published internal profitability statements contained either selected product groupings or product lines. However, the information was available on the database to provide a more detailed analysis relating to individual products within the product line should this information be required. It was apparent from the interviews that the management accounting function periodically monitors profits at the individual product level and formally **reports** the information on a management by exception level. For example, one respondent stated, 'We monitor product profitability at monthly intervals but we only **report** the information when we have something significant to **report** .'

Five out of the seven societies that periodically analysed profits by products stated that direct costs and only those indirect costs where meaningful measurements of resources consumed by different products were allocated. (See Table 5.) These societies claimed that arbitrary cost allocations were not used. Those costs that could only be allocated on an arbitrary basis were treated as common costs and deducted from the sum of the individual product contributions. Two of these respondents stated that their societies had implemented ABC. Traditional costing systems, involving some arbitrary cost allocations, were used by two out of the seven societies. Details of the methods used to assign costs for products and branch profitability analysis are presented in Table 5.

Of the remaining 21 societies (see Table 4), seven analysed profits by products on an ad hoc basis based on some perceived need such as management's intuition that a particular product was not profitable. These societies, therefore, did not have a cost accumulation and periodic **reporting** system that routinely pinpointed potential unprofitable products requiring a more detailed special study. Furthermore, when special studies were undertaken a historical database was not maintained that could be used to generate information to predict future product profitability. A further seven societies focused on interest margins and compared the percentage differences between interest paid on savings accounts (or money raised from the wholesale market) with interest received from mortgage lending. The final group of seven societies stated that they estimated product profitability prior to launching the particular product, but profitability was not monitored after the product launch stage. None of the smaller societies (total assets of less than L2,200m) had implemented, or planned to implement, a periodic product profitability analysis system.

BRANCH PROFITABILITY ANALYSIS

Theory suggests that two different measures of branch profitability should be computed; one to evaluate the economic performance of each branch and the other to evaluate performance of branch managers. The message transmitted from these measures may be quite different. For example, a manager may be assigned to an ailing loss-making branch facing strong competition in the area from other societies and banks with more favourable locations. The manager might substantially reduce the losses of the branch but the branch may still be unprofitable. The economic viability of the branch might be questionable but the manager may be rewarded for outstanding managerial performance.

(Table Omitted)

Captioned as: TABLE 4
TABLE 5

If the purpose of branch profitability measurement is to evaluate the performance of branch managers then only those items that are controllable by the branch manager should be included in the profitability measure. Thus, all indirect cost allocations and any costs and revenues that cannot be influenced by the branch manager should not be included in the

profitability measure. Branch profitability measures are also required to evaluate the economic viability of branches. Ideally, the incremental/avoidable cost method described earlier should be used but, because this is not feasible, a periodic historical profitability analysis audit should be undertaken at periodic intervals to determine the profitability of each branch. Historical branch profitability analysis should be used to provide attention-directing information in order to highlight those branches that appear to be making losses and which require more detailed special studies to ascertain their future economic viability.

The special studies should be based on a comparison of incremental costs and revenues. It is extremely difficult to estimate incremental costs and revenues for a specific branch. Many customers continue to maintain their accounts with a society, even if the branch at which their accounts are located is **closed** . The percentage of customer balances retained is dependent upon whether the society maintains other branches nearby and the extent to which customers are prepared to rely upon postal and standing order transactions. There is also a greater probability that savings balances, rather than mortgage balances, will be lost if a branch is **closed** . Therefore incremental costs and revenues are influenced by branch location, product and customer profile. Despite these difficulties, estimates of incremental revenues and costs must be made when evaluating branch economic viability. The respondents also indicated that, as an alternative to closure, consideration was given to strategies for reducing costs, improving efficiency and generating additional revenues.

Two alternative methods (balance-based and transaction-based profitability measures) were used to measure, periodically, branch profitability. With balance-based profitability measures, accumulated branch deposit and mortgage balances are used to determine interest expenses and revenues to compute branch profits. In contrast, transactionbased profitability measurement credits branches with profits arising only from those transactions undertaken during the current **reporting** period.

There are strong arguments in favour of using transaction-based profitability measures for internal profitability analysis. If the objective is to evaluate managerial performance, the aim should be to measure future results that can be expected because of present actions. Therefore the focus should be on **reporting** profits arising from only those branch transactions undertaken during the current **reporting** period. Branch managerial performance measures should not be distorted by the inclusion of profits arising from accumulated balances existing prior to the current **reporting** period.

When branch profitability measures are used as attention-directors for undertaking special studies to evaluate the economic viability of branches the measure should provide an approximation (over a specified time period) of the difference between incremental revenues and costs from maintaining a branch or group of branches. Ideally, branch periodic economic profitability measures should not include profits arising from those accumulated balances that would still be maintained by customers if a particular branch were **closed** . This information can only be obtained by undertaking special studies. Instead, appropriate proxy measures should be used for periodic branch profitability analysis. The best estimate of lost profits arising from branch closures is likely to be obtained from profits generated from current transactions **reported** by a transaction-based system. Balance-based profitability measures that include profits arising from accumulated balances brought forward from previous accounting periods are poor estimates of profits that would be lost as a result of branch closures.

Fifteen societies periodically analysed profits by branches (see Table 4). Six societies analysed profits on an ad hoc basis and seven stated that they did not analyse profits by branches. The latter figure included three large societies that had recently abandoned periodic profitability analysis because it did not provide useful information for making strategic decisions or evaluating managerial performance. Interviews were conducted with 12 out of the 15 societies that periodically analysed profits by

branches. A summary of the data derived from these interviews is presented in Table 6. The following comments relate to these 12 societies.

Branch profits were analysed at monthly intervals by four societies, three **reported** at quarterly intervals, one used six-monthly periods and the remaining four **reported** branch profits on an annual basis. Only one respondent stated that branch profitability was measured primarily to evaluate branch managerial performance. Profits were measured using a transaction-based system. The remaining 11 respondents stated that branch profitability measures were used primarily to measure economic performance. Balance-based profitability measures were used by ten societies and one used a transaction-based system.

Of the 12 societies interviewed, five assigned only direct costs, five assigned some indirect costs and two allocated most indirect costs. The general impression gained from the interviews is that virtually all of the respondents used periodic branch profitability **reporting** as an attentiondirecting device for highlighting those branches to be analysed in greater depth by means of special studies. There was general agreement that special studies should be based on the incremental/avoidable cost method. However, there was no common agreement as to which costs should be included in the periodic branch profitability attention-directing **reports** . Respondents who assigned only direct costs to branches considered that only these costs could be avoided if a branch were **closed** . They argued that indirect costs would not change if a particular branch was **closed** , and therefore there was little point in allocating such costs to branches. In contrast, those respondents who allocated indirect costs presumably considered that in the long-run indirect costs could be reduced if several branches were **closed** , and therefore indirect cost allocations represented an estimate of potential average long-term cost savings arising from branch closures.

(Table Omitted)

Captioned as: TABLE 6

Where reasonable approximations can be made of indirect resources consumed by different branches, there would seem to be a strong case for assigning the cost of such resources to branches. Alternatively, if reasonable approximations cannot be made, or the cost of collecting the information is excessive, then it may be appropriate to **report** only branch contributions (i.e. revenues less direct costs) to indirect costs. Branch contributions, however, should be sufficient to cover any avoidable indirect costs arising from branch closures. The **reporting** of low branch contributions, rather than just negative contributions, should therefore be used as the 'trigger point' for undertaking special studies.

EVALUATION OF BRANCH MANAGERIAL PERFORMANCE

It was apparent from the interviews that most societies do not evaluate branch managers on the basis of branch profitability. Instead, they are evaluated on a range of measures that relate to current activity volumes. For example, the number and value of new mortgages and deposits, net deposit receipts, various costs expressed as a percentage of income and the ability to keep within the budget for controllable items of expense were closely monitored. **Reports** on these key variables were issued on a monthly or quarterly basis. League tables for each key variable were prepared by most societies. A branch manager's performance was evaluated relative to the performance with a peer group (determined on the basis of location, size, demographic factors, etc.) for each key variable. Only a few societies prepared league tables for branch profitability.

Three societies stated that they operated performance-related payment schemes for branch managers. League table performance was a factor that was taken into account in determining annual salaries or bonuses. One society also indicated that poor performance in the league tables was used as an attention-director to highlight those branches where special studies were required to ascertain whether a branch should be **closed** . The respondent, however, stated that to trigger off such an investigation a branch would have to be consistently near the bottom of the league table for a range of

critical variables.

TRANSFER PRICING

Considerable attention has been given to transfer pricing in the management accounting literature, but little has been written about this topic within the retail financial services sector. Transfer prices are required to measure product and branch profitability. Building societies earn most of their profits from raising interest-bearing deposits from retail customers and using these funds to generate revenues from mortgage-lending activities. Instead of combining these two activities for periodic product profitability **reporting** , some societies **report** separate profits for both deposit-taking and mortgage lending activities. Where societies adopt this approach, a transfer price must be established to determine the revenue which is allocated to the different deposit savings products and the costs to be allocated to the various mortgage products.

Transfer prices must also be established to measure branch profitability. Without a transfer pricing system those branches whose mortgage balances exceed their deposit balances (i.e. net fund users) would receive credit for interest income without being charged for the full amount of associated interest expense. In contrast, those branches whose deposit balances exceed their mortgage balances (i.e. net fund providers) would be charged with interest expenses without being credited with any interest income on the net funds provided by the branch. Transfer prices are therefore established to allocate internal revenues to net fund providers and internal expenses to net fund users.

The seven societies that periodically analysed profits by products were asked to describe how transfer prices were set. A predetermined percentage margin was added to a market determined interest rate by six of the societies. All of them used the London Inter- **Bank** Offer Rate (LIBOR) as the market rate benchmark. The transfer price thus provides a mechanism for allocating the interest profit margin earned from interest paid on raising money and interest received from mortgages between savings products and mortgage products. Therefore, if a deposit account pays five per cent interest and a particular type of mortgage generates eight per cent interest, then if a transfer price of six per cent is set one per cent would be allocated to the savings product and a two per cent margin to the mortgage product. The transfer price that is set thus can have a strong influence on the **reported** profits of both mortgage and savings products.

The seventh society set the transfer price at the weighted average cost of retail/wholesale funds plus the cost of raising and servicing these funds. Thus only those savings products that pay interest at less than the average cost of raising funds would **report** profits whereas those paying more would **report** losses. Therefore, this system results in most of the margin obtained being allocated to the mortgage products.

Seven of the 12 societies interviewed, that periodically analysed profits by branches, set the transfer price by adding a predetermined percentage margin to the cost of raising the funds. Actual interest receivable on mortgage balances was computed for each branch and the transfer price was applied to these balances in order to compute profits generated from mortgage activities. Branch profits arising from deposit savings account balances were computed by deducting actual interest payable from branch deposit balances from notional revenues derived from multiplying these balances by the transfer price. For example, if a branch had savings balances of 100m paying an average rate of 5 per cent and mortgage balances of 60m yielding an average return of 9 per cent then if the transfer price rate was set at 7 per cent the branch profits would be computed as follows: (Formula Omitted)

In the above illustration the transfer price was set at the mid-point between the borrowing and lending rate so that mortgage and savings activities were credited with identical interest profit margins. By setting the transfer price at the rate that results in mortgages yielding higher margins (or vice versa), the societies could use the transfer pricing

system as a behavioural tool to encourage branch managers to place greater emphasis on either generating new mortgage business or expanding the funds raised from savings activities. However, no evidence was found to indicate that the transfer pricing system was used as a mechanism to influence branch managerial behaviour.

The remaining five societies that were interviewed applied different transfer price rates to branch savings and mortgage activities. For example, one society set the transfer price to be charged against mortgage balances at the weighted average cost of wholesale and retail funds for the society as a whole. Branch deposit savings account balances were credited with a different funds transfer rate based on the society's average return on mortgages and liquid assets. Assuming in the above illustration and average cost of funds of 5 per cent and a return of 9 per cent the following branch profit would be **reported** using this method of funds transfer pricing: (Formula Omitted)

With this method the full margin of four per cent arising from the difference between the percentage rate of return on mortgages and the cost of funding is applied to both mortgage and saving's activities. As a result an element of double counting of profits occurs at the branch level.

The remaining societies used variants of the method described above. Some involved an element of double counting of profits, and others rewarded branches either only for mortgage activities or savings activities. These societies therefore used a funds transfer pricing rate that was likely to result in the **reporting** of questionable branch profits.

BUDGETING, NON-FINANCIAL MEASURES AND MONITORING COMPETITOR PERFORMANCE
Budgeting systems were widely used with 93 per cent of the respondents indicating that they operated a system of budgetary control. It was apparent from the questionnaire replies and interviews that the budgeting and variance **reporting** systems operated in building societies are very similar to the systems operated in manufacturing organisations. Non-financial measures were also extensively used. Most of the societies measured customer satisfaction and service quality. Market consultants were employed to undertake questionnaire surveys relating to customer satisfaction, product recognition and awareness.

Several writers [e.g. Ward, 1996] have criticised accounting systems in manufacturing organisations because they are heavily biased towards internal comparisons of costs and revenues. They claim that relatively little attention is given to external relative comparisons with competitors. All the societies placed a great deal of emphasis on measuring and evaluating their performance relative to that of other societies. Statistics were collected and published by the Building Societies Association for the sector as a whole. Market share ratios relating to new mortgage advances and net retail receipts were readily available, and considerable attention was given to these ratios. Inter- society ratios were widely used to evaluate performance at the aggregate level. The larger societies placed a great deal of emphasis on performance criteria ratios that were included in an annual **report** published by Phillips and Drew Research Group. The **report** contains a set of league tables which ranks the twenty largest societies by performance ratios relating to profitability, capital strength, market share, revenue/costs and growth. It was apparent from discussions with the respondents that the societies attached a great deal of importance to the published ratio league tables. The ratios were regarded as critical success factors.

SUMMARY AND CONCLUSION

Deregulation and increased competition in the mid-1980s created a need for building societies to develop management accounting information systems to enable them to manage their costs and compete more effectively. Most of the societies responded to the need by implementing management accounting information systems in the early 1990s but some of the smaller societies are still in the process of doing so. Management accounting has expanded rapidly in the larger societies; in some of these over 20 staff were

employed in the management accounting function.

Virtually all of the societies have implemented a budgeting and performance **reporting** system. When asked to specify the planned changes to their management accounting information systems profitability analysis and transfer pricing were seen as key areas for future development. Ten out of the 13 largest societies analysed profits by product lines and individual products within the product line. Historical product profitability analysis was undertaken to monitor periodically product profitability and provide 'attention-directing' information to highlight those apparently unprofitable products that require more detailed analysis relating to their future economic viability. To meet these requirements profitability analysis is required only at infrequent intervals (say, once per year) but monthly or quarterly **reporting** was the norm. Further research is needed to ascertain why societies choose to analyse profits at such infrequent intervals.

All of the societies that periodically analysed profits by products had designed cost accumulation systems that enabled them to extract cost information from a database in any desired manner. In particular, the cost system enabled a hierarchical approach to profitability analysis to be adopted so that **reports** could distinguish between direct costs, indirect costs based on accurate estimates of resource consumption and indirect costs based on arbitrary apportionments. No evidence was found to suggest that distorted product profitability information was used for decision-making at the product line level.
Those societies that periodically analysed profits stated that profits were also analysed by individual products within the product line (e.g. different types of mortgages and savings accounts). This creates problems of how to deal with joint costs that are common to the whole product line and which cannot be traced to individual products within the product line. An example of a joint cost is advertising costs relating to all savings products, rather than a specific individual product. Any attempt to assign joint costs to individual products will result in arbitrary allocations and distorted profitability analysis.

There are strong arguments for analysing profits only at the product line level. For example, Cooper [1996] **reported** how Japanese firms design a set of products within a product line that satisfies virtually every customer. The customer then chooses the product within the product line that best satisfies his or her requirements. By designing a complete product line, an organisation gives the consumer no reason to look at a competitive offering. Leaving a 'hole in the line' because an individual product is unprofitable is unacceptable as customers trading-up or wishing to buy the missing product will simply switch to another firm. Given this strategy, many firms did not consider product mix management to be particularly important at the individual product level. All significant product decisions were made at the product line level. There are strong arguments for societies to adopt similar strategies and analyse profits only at the product line level.

Indeed, similar arguments could also be made for combining savings and mortgage activities for profitability analysis. Given the interdependent nature of these activities consideration should be given to treating them as a single product line such as 'mortgage lending and savings activities'. A transfer price would not have to be set for the transfer of funds between activities and profits would be determined merely by deducting the expenses from fundraising activities from the net revenues arising from mortgage activities. **Reporting** separate profits for mortgage and savings activities requires that a transfer price is established to assign revenues to deposit savings products and costs to the various mortgage products. Thus, product profitability is strongly influenced by the level at which the transfer price is set.

Fifteen societies periodically analysed profits by branches. Branch profitability measures were used primarily to measure economic performance. **Reported** profits were used as 'attention-directors' for highlighting those branches that required detailed special studies relating to their

future economic viability. Periodic historic branch profitability measures should therefore aim to provide an indication of a branch's impact on the future profitability of the society as a whole. Thus branch profitability measures should include profits arising from only those accumulated balances that would be lost if a branch were **closed** . Accumulated balances that would still be retained by the society are not relevant to branch closure decisions. Balance-based profitability measures that include profits arising accumulated balances brought forward from previous accounting periods were extensively used. **Reported** profits derived from such measures are poor estimates of profits that would be lost arising from branch closures.

Transfer prices must also be established to measure branch profitability. A funds transfer rate was used to allocate internal revenues to net fund providers (i.e. branches whose savings balances exceed their mortgage balances) and internal expenses to net fund users (i.e. branches whose mortgage balances exceeded their savings balances). A variety of different fund transfer rates were used to measure branch profitability, some of which resulted in a questionable allocation of profits between branches. The transfer pricing problem cannot easily be resolved and it is not possible to recommend a specific transfer price that can be universally applied in all circumstances. The difficulties arise because of the interdependencies between branches with some branches providing funds that are used by other branches to finance revenue-earning mortgage lending. The additional complexities introduced by funds transfer pricing casts further doubts on the benefits derived from branch profitability analysis.

There was some evidence to suggest that societies are beginning to question the usefulness of branch profitability **reporting** . Three societies **reported** that they had recently abandoned branch profitability analysis. Monitoring those critical variables that significantly contribute to the future success of the society (e.g. value of new mortgages, number and value of savings accounts, transactions generated etc. for each branch) should be seriously considered as an alternative to measuring branch profitability for providing 'attention-directing' information for signalling the need for special studies. Building societies have been implementing new management accounting information systems at the same time as the deficiencies of outdated systems operated by manufacturing systems were being widely publicised. Societies were therefore able to avoid many of these deficiencies. It was also apparent from the interviews that the respondents were knowledgeable about new techniques such as activitybased costing (ABC) with two societies having implemented it, two having made a decision to implement it, and fourteen giving some consideration to its introduction. The general conclusion that emerges from the survey is that the larger societies have developed systems that compare favourably with those in manufacturing organisations.
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Reference:

REFERENCES

Reference:

Berry, A., E. Loughton, and D. Otley, 1991, 'Control in a Service Company: A Case Study', Management Accounting Research, Vol.2, No.2, June, pp. 103-39. Cooper, R. ,1996, 'Costing Techniques to support Corporate Strategy: Evidence from Japan',

Management Accounting Research, Vol.7, No.2, pp.219X6. R. Cooper and R.S. Kaplan, 1988, 'Measure costs right: make the right decision', Harvard Business Review, September-October, pp.96103.

Drury, C., 1996, Management and Cost Accounting, Fourth edition, Thomson Business Press. Drury, C., S. Braund, P. Osborne and M. Tayles, 1993, A

Survey of Management Accounting Practices in UK Manufacturing Companies,
CCA Research Paper, Chartered Association of Certified Accountants.

Fitzgerald, L., R. Johnson, S. Brignall, R. Silvestro and C. Voss, 1991,
Performance .

Measurement in Service Industries, Chartered Institute of Management
Accountants. Hardwick, P., 1996, 'Concentration and Stability in the Mutual
Building Society Industry',

Reference:

Service Industries Journal, Vol.16 No.1, January.

Innes, J. and F. Mitchell, 1995, 'A survey of **activity - based costing**
in the UK's largest

companies', Management Accounting Research, June, pp. 137-54. Phillips and
Drew **Report** , Building Societies Research: The Major Players, UBS Phillips
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Ward, K., 1996, Accounting for Marketing Strategies, in C. Drury (ed.),
Management Accounting Handbook, Butterworth-Heinemann, Ch.10.

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IT Component Class Library (ITCL) AST Research, Compaq, DEC Alpha, Dell, Hewlett-Packard, Hitachi, Intel, Java, LANs, NEC, Novell Netware, Platform independent, Solaris, Sun Microsystems, SunSparc, Unisys, Unix/Xenix/Aix, Win CE, Windows, Windows 95, Windows NT, X Windows, Zenith Data Systems IT Components is an object-oriented class library providing a common interface for registration/publication of information objects. The ITCL interfaces to the ITOD as well as other real-time middleware environments (TriArch, Tibs, etc.).

IT Object Distributor (ITOD) AST Research, AT&T/NCR, Compaq, DEC Alpha, Dell, Hewlett-Packard, Hitachi, Intel, Java, LANs, NEC, Novell Netware, Solaris, Sun Microsystems, SunSparc, Unix/Xenix/Aix,WANs, Windows 95, Windows NT, X Windows, Zenith Data Systems The ITOD implements the IT Product Family (see also "Trading Systems"). Architecture as an object-oriented middleware environment for real-time client/server applications. The ITOD implements connection, service, and object resolution consistent with COBRA standards.

IT Object-Repository Server (IT/ORS) AST Research, AT&T/NCR, Compaq, DEC Alpha, Dell, Hewlett-Packard, Hitachi, Intel, Java, LANs, NEC, Novell Netware, Solaris, Sun Microsystems, SunSparc, Unix/Xenix/Aix, WANs, Windows 95, Windows NT, X Windows, Zenith Data Systems The IT/ORS provides a persistent cache of real-time objects which are dynamically created and updated by any applications within the IT Product Family Architecture. The IT/ORS is independent of object type and provides a convenient means for client/server applications to share objects.

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